

Docket No.: Y2238.0054
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Akira Watanabe

Application No.: 10/716,622

Confirmation No.: 6336

Filed: November 20, 2003

Art Unit: 2164

For: PACKET SEARCH DEVICE, PACKET
PROCESSING SEARCH METHOD USED
FOR THE SAME, AND PROGRAM FOR
THE SAME

Examiner: H. A. Hotelling

AMENDMENT AFTER FINAL ACTION UNDER 37 C.F.R. 1.116

MS RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

This is an RCE submission and is in response to the Final Office Action dated October 15, 2007. Please amend the above-identified U.S. patent application as follows:

Amendments to the Claims begin on page 3 of this paper.

Remarks/Arguments begin on page 7 of this paper.

FEE CALCULATION

Any additional fee required has been calculated as follows:

☐ If checked, "Small Entity" status is claimed.

	Claims Remaining	Highest Number	Number Extra	Rate	Additional Fee
Total	17	- 20*	=	\$ 50.00	\$0
Independent	3	- 3**	=	\$210.00	\$0
First presentation of Multiple Dependent Claim(s) (if					
TOTAL					\$0

*not less than 20

** not less than 3

No additional fee is required.

In the event a fee is required or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

CONTINGENT EXTENSION REQUEST

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 CFR 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 CFR 1.135. The fee under 37 CFR 1.17 should be charged to our Deposit Account No. 50-2215.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A packet search device that performs packet filter search for an inputted packet, comprising:

- a first search processing means for searching ~~for search~~ predetermined conditional statements corresponding to a plurality of information areas included in header information of said packet with a first search method to generate first search results; and
- a second search processing means for searching the first search results of said first search processing means with a second search method that is different from said first search method.

2. (Original) The packet search device according to claim 1, wherein said first search processing means divides said packet header information into a plurality of information areas and searches across each search conditional statements structured as binary search trees for each of said information areas separately.

3. (Original) The packet search device according to claim 2, wherein said second search processing means searches aggregated search results of said first search processing means using Hash method.

4. (Original) The packet search device according to claim 1, comprising a search database for managing each search result of said first and second search processing means for each of said information area.

5. (Original) The packet search device according to claim 4, wherein said search database has a plurality of search keys.

6. (Original) The packet search device according to claim 3, wherein said second search processing means manages only combinations of search results.

7. (Original) The packet search device according to claim 1, wherein at least QoS (Quality of Service) information and filter information are searched for based on said header information.

8. (Original) The packet search device according to claim 1, wherein said packet search processing is performed at least in a router and a firewall.

9. (Currently Amended) A packet processing search method that searches for a packet filter for an inputted packet before performing packet processing, comprising:

a first step of searching ~~for search~~ predetermined conditional statements corresponding to a plurality of information areas included in header information of said packet with a first search method to generate first search results; and

a second step of searching the first search results at said first step with a second search method that is different from said first search method.

10. (Original) The packet processing search method according to claim 9, wherein said first step divides said packet header information into a plurality of information areas and searches across each search conditional statements structured as binary search trees for each of said information areas separately.

11. (Original) The packet processing search method according to claim 10, wherein said second step searches aggregated search results of said first step using Hash method.

12. (Original) The packet processing search method according to claim 9, wherein each search result at said first and second steps is managed for each of said information areas using a search database.

13. (Original) The packet processing search method according to claim 12, wherein said search database has a plurality of search keys.

14. (Original) The packet processing search method according to claim 11, wherein said second step manages only combinations of search results.

15. (Original) The packet processing search method according to claim 9, wherein at least Qos (Quality of Service) information and filter information are searched for based on header information in said packet.

16. (Original) The packet processing search method according to claim 9, said packet search processing is performed at least in a router and a firewall.

17. (Currently Amended) A program for a packet processing search method that searches for a packet filter for an inputted packet before performing packet processing, causing a computer to execute,

first processing that searches ~~for search~~ predetermined conditional statements corresponding to a plurality of information areas included in header